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Exploring breathwork concepts vis-à-vis the South African life skills curriculum and assessment policy statement

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Abstract

In this study, we address a gap in existing literature by proposing the Singing Education Breathwork Quotient (SingEdBWQ), a framework aimed at enhancing the articulation of breathwork in South Africa's Life Skills curriculum. Employing qualitative methods, we collected empirical data through synchronous interviews and document analysis involving nine participants, including educators and breathwork experts. Key themes identified include awareness, purposeful inhalation, non-tension, intake sufficiency, resistance, exhalation management, continuity, and performance regulation. Notable findings emphasise the significance of intake sufficiency for optimal singing and the role of breath leading in musical performance. The implications of the SingEdBWQ are substantial: it provides a structured approach for teacher training; promotes student well-being; and enhances communication across music education. By incorporating breathwork exercises effectively into curricula, educators can foster resilience and stress management among students. Ultimately, the SingEdBWQ serves as a vital tool for improving educational outcomes and holistic well-being in schools in alignment with the United Nations Sustainable Development Goals for health and quality education.

Keywords: breathwork principles, breathwork teaching and learning, CAPS curriculum, life skills, singing education, well-being

Introduction

In application, the umbrella term *breathwork* refer to the conscious use of breathing for a specific outcome. Therefore, breathwork manifests in unique ways in distinctive modalities. Although breathwork, per se, is not a standard or traditional singing education (SingEd)

descriptor, the trans-disciplinary exploration revealed that this concept gained international acceptance recently as an all-inclusive term (Dibb, 2022; Manga & Murray, 2022; Morningstar, 2018). The science and research focus group of the International Breathwork Foundation currently endeavours to lend authority to this descriptor (International Breathwork Foundation, 2024). Consequently, we include this concept in our research on SingEd.

Breathwork is fundamental to SingEd because the vocal cords require breath to produce sound essential to singing (Davids & LaTour, 2021; Indik, 2009; Kulkarni et al., 2013). Indik (2009, p. 131) stated that "singing is amplified breathing", and Davids and LaTour (2021) noted that "[b]reathing is *the* foundation of singing" (p. 19, emphasis in original). According to Collyer (2009, p. 153), when singing teachers are asked about what is needed to sing well, despite answering "good breathing", they mention that "there remains a large gulf between research into breathing for singing and its influence in the teaching studio." Employing phenomenological interviews, Rooney (2016) investigated vocal pedagogical approaches of acclaimed vocal coaches and one of the key findings was that there existed "much disagreement between the interviewees about how to teach breathing" (p. 159). Naseth (2012, p. 39) commented, "Historically, proponents of scientifically based and non-scientifically based methods have often disagreed about the validity of each other's ideas, many times at the expense of pedagogical progress." As a result, many books and articles on breathwork in the domain of SingEd are written from the point of personal and practical experience rather than from that of scientific inquiry. This situation has resulted in many contradictory ways being used to convey breathwork techniques along with varying terminology given the lack of familiarity with scientifically accepted or commonly agreed-upon respiratory semantics. The ambiguous picture of breathwork, as reflected by authoritative SingEd literature, could perhaps offer a plausible explanation for the vague and unspecified breathwork indicators in the Life Skills syllabus and resultant learner textbooks.

Life Skills is a South African school subject that combines three diverse components: personal and social well-being; physical education; and creative arts. Creative Arts is further subdivided into the two main streams of visual arts and performing arts. SingEd is embedded in the performing arts (Department of Basic Education, 2011). In this section of the South African Curriculum and Assessment Policy Statement (CAPS), the national curriculum, the concepts of breathing awareness, breath control, and breathing exercises are mentioned fleetingly (Department of Basic Education, 2011). However, no detailed explanation is offered of precisely what these breathing concepts entail nor is advice given on how to impart them to learners, merely the instruction to do so. Breathwork as a golden thread that runs through all three of the divergent Life Skills components—personal and social well-being, physical education, and creative arts—is largely overlooked.

CAPS forms the blueprint from which various Life Skills learner textbooks arise. The learner books of three different publishers, Pearsons's *Day-By-Day Life Skills Grades 4-6 learner books* (Brennan et al., 2019), Maskew Miller Longman's *Platinum Life Skills Grades 4-6 learner books* (Amato et al., 2020), and Heinemann's *Spot On Life Skills learner books*

Grade 4-6 (Carstens et al., 2020) exhibit vague and inadequate attempts at breathwork teaching and learning. The *Spot On* series does not address breathwork at all. In the *Platinum* series we read, "Your teacher will show you how to breathe" (Amato et al., 2020, p. 34) and "Do some breathing exercises with your teacher" (p. 80); these suggestions are unreservedly meaningless and presuppose that teachers already have a working knowledge and experience of teaching breathwork. In the *Day-By-Day* series, questionable information is given regarding good posture. For example, does "hold your chin up" (Brennan et al., 2019, p. 26) contribute to a meaningful way of breathing? If the chin is held up too high, it creates, according to many authors, restricted airflow in the throat (Barrier, 2009; Chapman & Morris, 2016). These unconvincing teaching materials demonstrate a high level of ignorance vis-à-vis the role of breathwork in SingEd. Moreover, it highlights the need for an emergent singing education breathwork teaching and learning framework.

Research questions

The following research questions guided our scientific exploration of the breathwork landscape.

- What are the breathwork paradigms of South African SingEd lecturers?
- Why should breathwork concepts be included in a SingEd breathwork teaching and learning framework?
- How is breathwork of significance to well-being?

Seven principles of breathing

As a guide to steer the literary exploration of methodological aspects of breathwork in an endeavour to answer the research question, "Why should breathwork concepts be included in a SingEd breathwork teaching and learning framework?" we used the Russian Systema Method seven principles of breathing (RSMSPB) (Vasiliev & Meredith, 2006). These seven principles are: 1. Nose inhalation and mouth exhalation, 2. Breath leading, 3. Intake sufficiency, 4. Breath continuity, 5. Pendulum, 6. Breath independence, and 7. Non-tension. These seven principles manifest uniquely in both SingEd and Non-Singing Education (non-SingEd) modalities.

The first of the Russian Systema Method (RSM) principles articulates a preference for nose inhalation and mouth exhalation. Although SingEd literature revealed that singers inhale through both their noses and mouths and sometimes only through their mouths (Acar, 2016; Hoch, 2019; LeBorgne & Rosenberg, 2019), the non-SingEd literary narrative strongly emphasises the advantages of nose inhalation compared to the disadvantages of mouth inhalation (Balasubramanian, 2019; Cafasso, 2019; McKeown, 2015).

Highlighting the third RSM principle, similar accounts of, and reasons for, realising an optimised lung capacity were found in various non-SingEd and SingEd works in the literature (Del Negro et al., 2018; Manga, 2018; Morningstar, 2018). However, SingEd breath sufficiency literature reveals a unique modality-specific focus on air outflow regulation

(Chapman & Morris, 2016; Emmons & Chase, 2006; Salomoni et al., 2016). How to manage exhalation has a strong focus in SingEd since the breath is vital to phonation, i.e., producing sound, the basis of singing (Davids & LaTour, 2021; LeBorgne & Rosenberg, 2019; Miller, 2011). Thus, the breath not only precedes or leads the singing, as implied in the second RSM principle, but the singer also leads or steers the breathing. non-SingEd literature also has a focus on breath management. However, this was aligned with different outcomes related to enhanced physical and mental endurance (Lee & Campbell, 2013; Vasiliev & Meredith, 2006; Vranich & Sabin, 2020).

In alignment with the seventh RSM breath principle, both non-SingEd and SingEd literature were in agreement about an optimum posture that enables the physical body to be relaxed (Adhana et al., 2016; DiStefano, 2016; Novotny & Kravitz, 2013). Neither contracted musculature nor a nervous mental disposition should restrict the natural breath flow. Exhaustive practical guidelines and exercises to enhance posture and relaxation are abundant in the literature. Whereas non-SingEd literature views various disturbances in the continuous airflow as detrimental to well-being and optimal body-mind coherence, SingEd literature has a somewhat different take on the matter. Reminiscent of the fourth RSM breathing principle, legato singing, i.e., connecting musical notes smoothly and efficiently, is professed to be the quintessential aim of technically proficient and beautiful singing (Davids & LaTour, 2021; Emmons & Chase, 2006; Miller, 2011).

Breath independence as a concept, the sixth Russian Systema Method breathing principle, has attracted little attention in both non-SingEd literature and SingEd literature. Furthermore, different breathing rhythms supporting different outcomes are highlighted in non-SingEd literature (Adhana et al., 2016; Del Negro et al., 2018; Skow et al., 2015.) The concept of breath holding, a pause between the inhalation and exhalation respiration phases, is discussed. However, we found no substantial SingEd literary discourse indicative of the fifth RSM principle of pendulum.

Although presented as individual concepts, the seven breathing principles seem to function in an interwoven manner like the instruments of an orchestra: they are all significant individually, but harmony emerges when they function as a whole. For example, the principle of non-tension lends improved functioning to the principle of breath continuity since relaxed musculature ensures an optimal flow of energy. Also, the principle of nose inhalation and mouth exhalation aids the principle of intake sufficiency because nasal inhalation naturally engages the diaphragm muscles necessary for optimal inhalation. Thus, the realisation of a particular principle relies on collaboration with other principles.

Breathing for well-being

Manga and Murray (2022, p. 9) stated that breathwork is "a bridge between the body, mind, and spirit." Consequently, our literary exploration answered the research question, "How is breathwork of significance to well-being?" from three distinct but interrelated foci: physiological; psychological; and spiritual dimensions. Noteworthy is that where breathwork in singing appears in well-being research, it was undertaken by nursing or psychology

practitioners, but not by SingEd specialists. In contrast, the well-being and breathing connection is extensively deliberated upon in non-SingEd scientific and ancient wisdom literature.

Physiological well-being

Optimum breathing habits were found to enhance physiological well-being in the domains of physical activity regulation (Falsone, 2018; McKeown, 2015; Tsatsouline, 2003), diet (Meerman, 2016; Morningstar, 2018; Nestor, 2020), dental health linked to ideal sleeping patterns (Galland et al., 2015; Guilleminault & Sullivan, 2014; Pacheco et al., 2015), and respiratory health (Harch & McCullough, 2016; Tweed, 2018).

Research has consistently highlighted the positive effects of singing and breathing exercises on asthma management among children. Eley and Gorman (2008) demonstrated that girls aged 5 to 17 experienced improved asthma control and well-being through singing exercises over ten months. Similarly, Bowden et al. (2020) found that choir singing significantly enhanced asthma control and self-esteem in children aged 7 to 12.

Wade (2002) compared the effects of vocal exercises to music-assisted relaxation, revealing that singing led to maintained or increased lung function in children aged 8 to 13, while relaxation did not yield consistent results. Clements-Cortés (2015) and Smith (2006) emphasised the importance of breath control and healthy breathing techniques in singing for children with asthma.

Simoneau et al. (2020) implemented the Easy Breathing for Schools program that reduced absenteeism among asthmatic students by 23%. However, this study lacked detailed guidance on specific breathing techniques. Kulkarni et al. (2013) confirmed that singing lessons improved pulmonary function significantly in children aged 9 to 12 and suggested that singing is a valuable intervention for those who suffer from asthma and chronic obstructive pulmonary disease.

Addressing breath literacy in schools could significantly enhance learner health. While it is essential to clarify that this approach does not replace sound medical advice for students with acute or chronic conditions, it holds the potential to support those struggling with respiratory issues, including current COVID symptoms, asthma, the leading cause of school absences in the United States of America, (Simoneau et al. 2020), tuberculosis (the leading cause of death in South Africa) (Statistics South Africa 2021), and other respiratory conditions. Teaching optimal breathing mechanics, as emphasised in SingEd, can foster resilience and well-being among learners, making it a valuable addition to school health programs.

Psychological well-being

An exploration of the literature revealed a growing body of research that highlights the positive impact of mindfulness and breathing techniques on students' academic performance and mental focus across various countries. As noted by Rechtschaffen and Rechtschaffen (2015), being mindfully present enhances both learning and living.

Spencer (2020) conducted a study in a Canadian Montessori school in which a six-week mindfulness program combining neuroscience education and yoga improved students' self-regulation and focus, leading to more effective task completion. Similarly, McCoy (2019) examined a sample of Florida high school students and found that those who practised breathing techniques demonstrated significant improvements in academic scores, and this suggested a direct correlation between breathing and mental focus.

Cornell (2019) explored a "Mind-on-Breathing" program for Grade 5 students, which showed that just five minutes of mindful breathing daily enhanced academic performance and reduced off-task behaviour, although the small sample size limits the generalisability of these findings. In New Zealand, Higgins and Eeden (2018) highlighted that mindfulness breathing practices increased mental concentration during mathematics classes, with students reporting greater relaxation and focus, despite initial difficulties with distracting thoughts.

Overall, these studies underscore collectively the effectiveness of mindfulness and breathing techniques in fostering improved focus and academic success among students and affirm their potential as valuable tools in educational settings.

Research that explored the role of mindfulness and breathing techniques in emotional regulation and learning across various cultural contexts includes that of Wan and Savina (2016), who compared emotion-regulation strategies among 54 European American learners in West Virginia and 89 Chinese learners in Hong Kong, and found that both groups recognised the positive emotional benefits of deep breathing, although American children were more inclined to associate it with anger management.

Keller et al. (2017) investigated perceptions of mindfulness practices among 28 Grade 4 learners in a southwestern American school and revealed that breathing exercises enhanced emotional regulation and attitudes toward learning, albeit with varied responses among students. King et al. (2018) examined deep breathing interventions in an Australian Year 10 science class, noting that initial scepticism transformed into the acknowledgment of the calming effects, thus highlighting the necessity of student willingness for effectiveness.

Bannirchelvam et al. (2017) focused on a mindfulness program for 20 anxious learners in Australia and emphasised that breath-centred techniques were particularly effective for emotional regulation, thus reflecting positive student experiences. Overall, these studies demonstrate collectively the effectiveness of mindfulness and breathing practices in improving emotional well-being and academic engagement across diverse populations.

The reviewed studies underscore the effectiveness of breathwork as a strategy for managing anxiety in educational settings. Contreras (2020) conducted a two-week online deep breathing intervention with 31 Grade 10 students in Dallas and found significant reductions in test anxiety before a biology examination. However, the study lacks detailed descriptions of the specific breathing techniques used.

Rowley (2018) investigated diaphragmatic breathing with 20 young children and their parents in Fullerton, reporting improvements in children's functioning post-intervention, but, similarly, did not provide specifics on the techniques. Khng (2017) studied 122 Grade 5 students in Singapore and found that deep breathing before mathematics tests significantly reduced anxiety and improved performance, thus suggesting its usefulness as a self-regulatory tool in academic settings.

Terai et al. (2014) examined the psychophysiological effects of slow diaphragmatic breathing on 32 Grade 3 students in Japan, noting reductions in anxiety levels and breathing rates. However, this study also failed to outline clearly the intervention procedures. Collectively, these studies highlight breathwork's potential for anxiety reduction, while indicating a need for more comprehensive investigations—particularly in South Africa, where research on breathwork in schools is limited. According to the United Nations International Childrens Emergency Fund (2023) U-Report poll, about 60% percent of South African children and youth reported needing mental health support.

Spiritual well-being

Concerning spiritual well-being, conscious breathwork was found to enhance the transcendental experiences of union with the Divine (Peyton, 2019; Puente, 2014; Sharamon & Baginski, 2003), and oneness with all creation (Browne, 2020; Montgomery et al., 2019; Piotrowski et al., 2017). Conscious breathing is also practised as a tool for self-exploration (Edwards, 2005; Ramacharaka, 2008; Trumbore, 2018).

The incorporation of this aspect into school curricula is debatable because of the sensitivities surrounding religion in educational settings. However, Life Skills educators can raise awareness about using breathing for spiritual well-being. The appropriateness of specific practices should be determined by the training, context, and discernment of the school community and educators.

The RSMSPB framework does not have a separate entry for the concept of well-being. Also, the Life Skills CAPS uses the breathwork terminology only in a mechanistic sense without unlocking its value for well-being. Accordingly, in CAPS-compliant learner workbooks the breathing and well-being connection is not explored or discussed. However, our exploration of the rich and deep literature regarding well-being highlighted breathwork for well-being as a hiatus but a priority in the South African school curricula, school textbooks, and teacher training. "It's clear that there is an incredible benefit available to more fluency and expertise with our breath" (Moraveji, 2014).

Methodology

The research design is a logical blueprint that maps out the research process and lays out the route, i.e., the research procedures and the route markers or, in other words, the evidence generated (Bryman, 2016; Maree & Van der Westhuizen, 2012; Yin, 2016). In this study, we used a qualitative research design to gather data on the methodological requirements and subsequent well-being benefits of breathwork through synchronous interviews and document

analysis. Creswell (2007, p. 40) argued, "We conduct qualitative research because we want to understand the contexts or settings in which participants in a study address a problem or issue." In a qualitative trans-disciplinary approach, voices from the SingEd tableau were merged with those of non-SingEd research participants in the fields of healthcare, martial arts, and education. The nominalist ontology, interpretive epistemology, and voluntarist human assumptions dictated an idiographic research approach (see Cohen et al., 2008; Maree & Van der Westhuizen, 2012; Nieuwenhuis, 2012).

Participants

The purposive sample constituted one specialist in martial arts, one in healthcare, one in Life Skills and six SingEd specialists. All research participants in this study were reputable, academically well-qualified, and had practical experience in breathwork teaching and learning. The age of the participants ranged from 30 to 70 years and consisted of four males and five females. In lieu of the rich multiracial landscape of South Africa, the participants' racial identity included two Indian, two African, one Mixed Race and four Caucasian individuals. Most of the research participants were not English first language speakers but Afrikaans, isiXhosa, Sesotho, and Russian. The participants represented four of the nine provinces in South Africa, namely, Gauteng (four), Eastern Cape (three), Western Cape (one) and Northwest (One). Except for two participants who opted not to remain anonymous, they were assigned colours as pseudonyms in the research document.

Semi-structured qualitative interviews

An interview can be described as an enquiring conversation in which the interviewer collects data and gains insight into the interviewee's knowledge, skills, and behaviour (Bertram & Christiansen, 2020; Nieuwenhuis, 2017; Yin, 2016).

In this research, the qualitative semi-structured interviews (in which we used an interview schedule) were aimed at determining how the phenomena of breathwork play out in social reality. The interview schedule was aimed at exploring the breathwork paradigms of research participants. First, we obtained brief biographical and institutional information. Second, seven questions, aligned to the RSMSPB, addressed the methodologic aspects of breathwork. Third, three questions that explored the link between breathwork and the three dimensions of well-being were asked. Although the interview questions sought answers to *a priori* topics, participants could elaborate on each topic in their own words. Although it is a weakness of semi-structured interviews that "important and salient topics may be inadvertently omitted" (Cohen et al., 2011, p. 413), every effort was made to ask participants, in concluding the interviews, whether they felt the need to add anything to the breathwork conversation. Additionally, participants were requested to share applicable breathwork teaching and learning documents to substantiate the primary data collected through interviews. These documents allowed for an "internal perspective" on how participants engage in the study phenomenon (McMillan & Schumacher, 2014, p. 387).

During the COVID-19 pandemic, safety and accessibility were crucial concerns and therefore we used the Zoom online meeting platform. An advantage of this interview method is that the

online platform made it possible for interviews to be audio and video recorded. Recordings were transcribed online but rectified manually. These verbatim transcriptions were then sent to the research participants to check and verify. Thus, the online method lent itself to a high level of accuracy (re-visiting of video and sound material) and authenticity. Further, as Bryman (2016) has noted, other advantages of online personal interviewing are flexibility, cost- and time-saving, and convenience.

Data collection

The pre-identified breathwork experts for the semi-structured interviews were recruited by our sending out emails inviting them to participate in the research. A consent form, signed by the participants, informed them of the purpose and expected outcome of the proposed research. This form clearly outlined what was expected of the participants regarding their involvement in the study and addressed the ethical principles of informed consent, voluntary participation, protection from harm, and confidentiality. Permission to conduct the study was obtained from the Ethics Department of the University of Pretoria.[1]

Data analysis

From the RSMSPB theoretical framework and extensive literature on breathing and well-being, ten *a priori* codes were gained that guided the data collection process. These were the seven breathing principles of the Russian Systema Method and the three domains of physiological, psychological, and spiritual well-being. Instead of an inductive approach, these predetermined codes dictated a deductive, analytical approach.

After interviewing the research participants, we wrote a report on each transcription, highlighting the essence of the interview and omitting unnecessary repetition of the data. The 15–20-page interview transcriptions were reduced to approximately three to eight pages. To stay true to the essence of the interviewees' contributions, extensive quotations were included to reflect the unique and diverse language use and choices of participants. Thereafter, A1-sized posters were placed on a wall and assigned to one of the ten *a priori* codes. A blank poster for possible non-matching, outlier concepts was also provided. For each research participant who chose to be represented by a pseudonym, a different colour highlighter was used to distinguish the data. On each poster appeared the three questions, What? Why? How? The focus was placed on one *a priori* code at a time, by diligently reading and re-reading through the interview transcripts, thus ensuring the trustworthiness of the data.

Given the deductive analytic approach, all data was reassembled in line with the ten *a priori* codes. In this research, the goal was to contemplate and then refine and transform these ten *a priori* codes to suit the needs of an emergent SingEd breathwork teaching and learning framework. In the process, data that either confirmed, or conflicted with these *a priori* codes, was identified. Special care was taken to detect codes not included in these ten *a priori* codes. The fieldwork did not yield sizable data regarding well-being to justify three different entries into an emerging framework, so it was decided to merge the three well-being codes into only

[1] Reference number: EDU118/21

one well-being code. This one well-being code was added to the seven Russian Systema codes. A ninth code emerged from the disassembling of the data. This silent code was labelled "breath awareness." Thus, the initial ten *a priori* codes became nine codes in the final analysis. These codes, in order of prevalence, are intake sufficiency; breath leading; non-tension; well-being; inhalation preferences; breath continuity; awareness; pendulum; and independence. The main themes and subthemes that emerged are captured in Table 1.

Table 1
Data analysis integration (Potgieter, 2023).

Themes	Sub-themes
Intake sufficiency	• Natural resting respiratory rate • Diaphragmatic/abdominal/low/deep breathing ensures optimal energy/air/breath intake • SingEd: breath support/resistance employed to regulate outflow of the air
Breath leading	• Breathing comes before action • For efficient use of air/energy/breath it is of importance how exhalation is managed/controlled/lead • SingEd: Regulates sound production/phonation, pitch/intonation/register/intervals, dynamics/energy intensity, timbre/resonance/emotion, text/diction/consonants/vowels • SingEd: Score preparation and awareness essential • Culture specific
Non-tension	• Form: Aligned upright/straight posture/spine • Mobility/balance: Feet, knees pelvis, chest, sternum, shoulders, neck, head, jaw • Relaxation: To get full benefit of breathwork practise benefits
Wellbeing	• Breathing affects nervous system • Conscious directed breath can contribute to: o Respiratory health o Release of negative emotion/stress/anxiety o Attainment of mental clarity/alertness/being present/centring o Managing energy levels: up-regulate or down-regulate o Personal transformation/experience of connectedness • SingEd, Stage fright/performance anxiety management
Inhalation preferences	• Nasal respiration is natural and healthy: It is best for everyday use. • Modality specific nose and/or mouth inhalation are employed for specific needs/outcomes/practices • During inhalation SingEd is concerned with "raising" of the soft palate, i.e. inhalation placement, to regulate resonance: "yawn space" • Age/culture/health need consideration

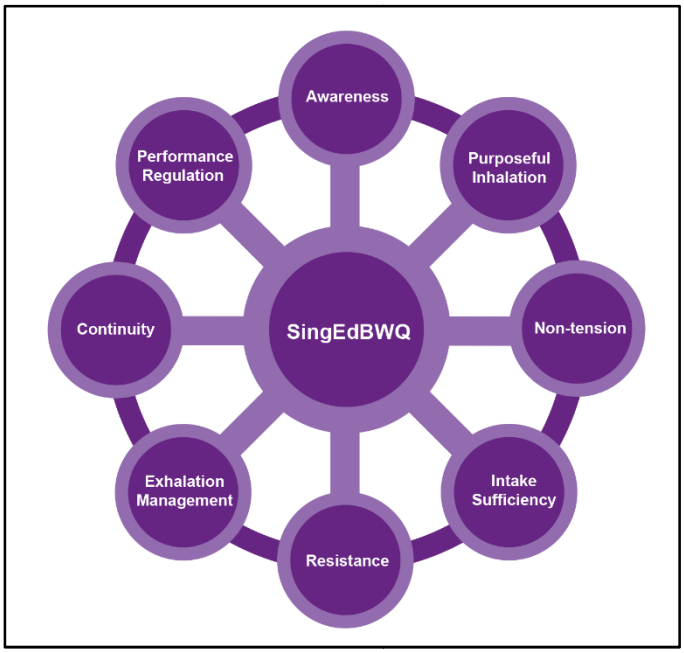
Themes	Sub-themes
Breath continuity	• Responsive breathing that supports activity • Continued air flow not to be disrupted • SingEd: Legato: connecting notes, especially vowels, sing through the line • SingEd: Legato lines carry the sound, text, and emotion
Awareness	• Natural vs modality specific breathing • Conscious/Voluntary vs Unconscious/Involuntary breathing • Preparation vs Application phase • Exercises: revision/repetition • Understand principle, but use creatively to suit individual needs
Pendulum	• Breathing rhythms for different outcomes/practices • Breath-holding linked to wellbeing: optimum oxygenation of cells • SingEd: slight breath suspension possible, but breath holding during performance will restrict air flow and create discomfort. However, breath-holding exercises can be incorporated in preparation/warm-up phase.
Independence	• Instinctual/organic breathing harmonious with activity • SingEd: singing is breath dependent • SingEd: choristers could take breath independently to ensure continuous sound, i.e., staggered breathing

Of the nine major themes we identified and deliberated on during the research fieldwork, the most emphasised were: intake sufficiency; breath leading; non-tension; and well-being, followed by inhalation preferences; breath continuity; and breath awareness. The least discussed topics were pendulum and independence. Even though the new theme, awareness, was not originally an *a priori* code or research question, its prevalence was greater than that of pendulum and independence. Moreover, although not an independent item in the RSMSPB, the theme of well-being ranked significantly high.

Results and discussion

The findings consistently affirmed key delineators that should be considered when one is engaging in breathwork teaching and learning. From amalgamating findings from the literature review, research fieldwork, and personal experience, an emergent *Singing Education Breathwork Quotient* (SingEdBWQ) is recommended for use by Life Skills educators in South Africa (See Figure 1).

Figure 1
Singing Education Breathwork Quotient (SingEdBWQ) (Potgieter, 2023).



Awareness

Creating awareness and reaping the benefits of sound breathing mechanics are at the heart of various non-SingEd and SingEd modalities. Research participant and medical professional, Ela Manga, stated,

> I don't think we can do any conscious breathing until we do breath awareness. So, breath awareness is the foundation.

Offering brief but sufficient knowledge about essential human anatomical and physiological aspects can lead to a deepened understanding and appreciation of various breathwork techniques. In this regard research participants underlined educational practices like focusing on separate items before integrating them into the whole, repetition, and age appropriateness. Becoming aware of the unconscious respiration process also allows of taking breathing under conscious control. Porges (2022) remarked that "when you can gain a sense of awareness, you have access to choice" (p. 3). Thus, breathing can be employed for various outcomes as illuminated by the vast non-SingEd and SingEd literature.

Purposeful Inhalation

SingEd lecturers differed in their preference for inhalation. Pink, research participant and opera singer, employs only mouth inhalation for singing, and explained,

> So, if you breathe through your mouth and you find that yawn space, what happens is that the soft palate raises and the extrinsic laryngeal muscles on the side here [demonstrated] relax. And that's very important for singing because for resonance,

> you want to make sure that your instrument, so the mouth and the pharynx, that they are in the optimal position for resonance.

However most agreed that a combination of nose and mouth inhalation for singing is the norm. The above arguments are consistent with the reviewed literature. Nose inhalation is considered natural and contributes to our well-being for ample well-documented reasons. Curiously, literature discussing the advantages or disadvantages of either nose or mouth exhalation preference is minimal. Also, no SingEd research candidate referred to this aspect. There is room here for further scientific inquiry. It can be argued that mouth exhalation is a given when singing. In this regard, the wording of the latter part of the RSM principle of *Nose inhalation and mouth exhalation* is redundant in contemplating a SingEdBWQ. Through breath awareness, we become cognisant of the natural and well-being benefits of nose inhalation and the detrimental effects of mouth inhalation as an everyday subconscious habit. Instead of prescribing one specific way of respiration, it is preferable to allow room for modality-specific ways of breathing. It is therefore recommended to use the wording *purposeful inhalation*. In this way, a distinction is made between everyday breathing, which should be through the nose, and modality-specific breathing, which can be through the mouth or through both the nose and the mouth. Purposeful inhalation thus makes allowance for flexibility and creativity.

Non-tension

Both non-SingEd and SingEd literary reviews and empirical research provided bounteous support and exposition of the Russian Systema Method breathing principle of *non-tension*. The basic premise is that energy must flow unobstructed throughout the body. Therefore, awareness is created regarding tensions that could restrict airflow. Research participant and Russian Systema Method expert, Vadim Dobrin, explicated,

> You can't waste energy . . . everything supposed to be efficient, economical, everything supposed to be done with a greater, almost, with a minimum input and a greater outcome.

Both physiological tensions, i.e., a maladjusted posture that causes contracted musculature, and psychological tensions, i.e., a distressed nervous system, can cause these obstructions. Therefore, relaxation is imperative. In Singing Education, the raising of pitch is often associated with the rising of vocal tract tension owing to supporting breath delineators like posture, resistance, continuity and exhalation management being inefficient. It is not difficult to recommend that non-tension should be included as a vital component of an emergent SingEdBWQ. The term *relaxation* could also be apt as a concept descriptor.

Intake sufficiency

Owing to gravity, most alveoli, the many oxygen–carbon dioxide exchange instruments, are situated in the lower and larger proximities of our lungs. Therefore, awareness of the physiology of the lungs is essential to understanding what it means to take a full breath. Both non-SingEd and SingEd literature were highly congruent with the fieldwork findings. A

distinction was made between clavicular (high), chest (middle), and diaphragmatic (low) breathing. A SingEd participant agreed that clavicular breathing is not conducive to good singing. Research participant and choral conductor, White, mentioned,

> We don't want to have clavicular breathing. They call that, I love this term, the breath of exhaustion . . . But that would be tension in the muscles that aren't conducive for vocal production.

Sufficient air is needed to meet the high demands of singing a musical phrase. Also, low breathing is promoted for various other reasons. It allows for prime gas exchange that leads to optimal energy uptake by the cells of the body, thus contributing to physiological well-being. Although *low breathing* could be considered a term for inclusion in a SingEdBWQ, both the literature and empirical research revealed instances when different intake measures are required. Therefore, the open-ended concept of *intake sufficiency*, as articulated in the RSMSPB theoretical framework, is recommended for inclusion in an emergent SingEdBWQ.

Resistance

A primary requirement of singing is to resist the natural recoil of the diaphragm that drives the autonomous bodily function of exhaling. The reason is to prolong the exhalatory phase needed to execute a musical phrase. Research participant and tertiary music education lecturer, Green, shared his practical approach to create awareness of breath support and resistance in saying,

> Sometimes when you lie on the floor singing . . . you should notice how . . . your breath in your stomach and ribcage also rise . . . This can also help you to feel the back of the diaphragm... As you feel resistance against the flow . . . it can also help you to produce a good, very good sound.

Both the SingEd literary review and research fieldwork revealed different approaches to resistance, often termed *breath support*. Within non-SingEd modalities, the diaphragm is crucial to create support for physical activities. There is no separate entry in the RSMSPB framework for resistance or diaphragmatic support. However, the Russian Systema *principle of the pendulum* alludes to the concept of breath holding. This principle makes provision for different rhythms of breathing for different purposes. The breath-holding concept, i.e., not breathing in or out but delaying the breathing process either at the end of exhalation or at the end of inhalation for a determined period, is used, among other reasons, to maximise the oxygen saturation of cells and to aid mental clarity and elevated energy levels.

A common breath practice amongst non-SingEd modalities is *square* or *box* breathing. A person will breathe in for four counts, hold the breath for four counts, breathe out for four counts, hold the breath for four counts and continue this regular breathing cycle for as long as deemed necessary. In other words, the rhythm of these exercises is as smooth and regular as that of a pendulum. However, the rhythm of singing is determined by the length of phrases and can therefore be said to be irregular, i.e., it does not adhere to the regular swing of a

pendulum. Therefore, in the context of SingEd, the terms *resistance* and *breath holding* are more appropriate concept descriptors.

Exhalation management

The Russian Systema principle of *breath leading* emphasises that all action follows breathing. In this Russian martial arts modality, breathing is consciously employed to *lead* physical activity. In singing, it is indisputable that, to phonate, i.e., get the vocal cords to vibrate to produce sound, the breathing has to lead. First, there is air supply, then the sound follows. The breath not only leads the sound, it also transports the lyrics and emotions. In SingEd literature and empirical research, the terms *breath control* and *breath management* are used mainly for this requirement to steer the breath consciously through the various musical demands of intonation, dynamics, and timbre. Purple, research participant and voice lecturer emphasised,

> It's not about how much air you take in; it's how you manage the air.

It is recommended that the term *exhalation management* clearly describes the requirement of conscious control of the outflowing energy. The term *energy management* would also be suitable. Since the concept of *control* denotes restriction, i.e. tension, this term is not recommended for use.

Continuity

Although both non-SingEd and SingEd modalities hail *breath continuity* as important, the reasons for doing so differ vastly. In the well-being modalities, breathing is considered to be a language. A breathwork practitioner can gauge the well-being status of a client by reading their breathing. For example, holding the breath, thus not having a continuous natural breath, can indicate unexpressed guilt, fear, or shame. The practitioner then can guide a client to address and remedy this situation. In SingEd, breath continuity or *legato singing*, i.e., smoothly connecting musical sounds, is viewed as the ultimate quality of adept musicianship. This quality can be realised only when all other key breathwork delineators are cognitively and practically well integrated. Research participant and choral conductor, Gold, stated,

> For me it's the legato lines that carry the emotion. And obviously, it carries the sound, it carries the vowels. But that's for me the secret of good singing. It carries the text. It carries the emotion. It carries the sound. What more do you want?

Performance regulation

Well-being as a concept is comprehensive. It speaks to peak performance in all aspects of our being. Although well-being as a concept is not listed as a separate item in the RSMSPB theoretical framework, an interview with the RSM expert brought home to us the realisation that well-being underpins the entire RSMSPB framework. Interviewing the well-being and breathing expert further reinforced our cognisance that peak performance is impossible when underscored by pathological breathing mechanics. Sound breathing mechanics and well-being are two sides of the same coin. How then does this apply to SingEd? By addressing good

breathing mechanics in SingEd, well-being is consciously or unconsciously influenced. On emotional well-being Purple remarked,

> . . . stage fright or performance anxiety . . . they're tangible. It is a huge reality for all of us. There's, you know, standing in the wings and just feeling like you have no air and then you're gonna pass out and that you can't perform. If you are able to channel the low, the deep, the relaxed breathing, it puts you in a much better space.

Replying to the research question on spiritual well-being, Gold expounded,

> Can I just say something there, that of my most wonderful moments in choir rehearsals or performances? Where they've been doing these breathing exercises. And they then sang long lines. And they just breathe together. There's something magic that happens amongst those singers that you can't explain. . . They've joined their souls together.

It is possible to employ breathwork deliberately to influence performance intentionally. For example, stage fright or performance anxiety regulation tools can be included in a comprehensive SingEd curriculum. It is also possible to aid mental clarity and to adjust energy levels to aid peak performance. *Performance regulation* is therefore recommended as an entry into the emergent SingEdBWQ. Since self-regulating breathwork skills can be incorporated effortlessly into the broader schooling curricula, performance here not only refers to artistic performance but also to general human performance.

Aside from the eight recommendations for an emergent SingEdBWQ, the following should also be considered.

The interdisciplinary exploration of breathwork revealed that breathwork concepts are similar across disciplines. It is only in the application that breathwork practices are aligned to modality-specific outcomes. Therefore, SingEd, traditionally a subdiscipline of music education, can serve equally well as a subdiscipline of well-being modalities. Therefore, the role and value of SingEd in the larger educational tableau should be reconsidered. Too often, this subject is dismissed and replaced with other so-called future profit-making subjects in an ever-crowded schooling programme. Scientific investigation can be undertaken to determine the *happiness index* of schools with or without SingEd in their ranks.

As outlined in the Life Skills CAPS document, breathwork teaching and learning can be addressed successfully by employing SingEd as a modality. The mentioned breathwork concepts in CAPS are limited and allude inadequately to only two of the eight breathwork considerations embedded in the SingEdBWQ. It is in the best interests of Life Skills educators to gain a comprehensive understanding and appreciation of breathwork concepts and practices through expanding their personal breathwork consciousness. This can be achieved by taking part in one of various breathwork modalities like chi gong, Russian Systema Method, mindfulness practices, or joining a choir. Furthermore, valuable online breathwork information and videos are abundant in our modern, technologically

interconnected society. It is also worthwhile to support the South African foundation Breathwork Africa: The one-day Breathing Buddies Workshop will empower educators with a toolkit on why, when, and how to teach breathwork to children aged 3 to 13.

An enhanced CAPS curriculum that incorporates all aspects of the proposed SingEdBWQ has the potential to lead to improved learner textbooks that help teachers bring breathwork concepts to life. For example, by integrating simple and brief breathwork techniques at the start of lessons, teachers can effectively upregulate energy levels (on hot days) or downregulate them (on windy days). This increase in focus has the potential to enhance learners' capacity to absorb new concepts, whether in singing education or any other school subject. To support under-resourced schools, teacher training programs could include accessible, adaptable breathwork lesson ideas in and across the three main Life Skills components.

The Life Skills teaching programme consists of three divergent components: personal and social well-being; physical education; and creative arts. Breathwork is the common denominator, the golden thread that runs through these components. However, this is not outlined or made explicit in the CAPS document. Breathwork is inexplicably and unpardonably neither mentioned or used as a tool for personal or social well-being. It is recommended that breathwork be included in the well-being component of the Life Skills CAPS since breathwork can be instrumental in making sense of uniting all these divergent components under the one umbrella of Life Skills.

Research significance

The SingEdBWQ can be advantageous in the following areas:

- Teacher training: Assisting Higher Education Institution lecturers and Education Department subject advisors to ensure that the basic concepts and practices of breathwork are taught and studied.
- School education: Assisting generalist teachers in schools to address the breathwork requirements in the school syllabus.
- Music education: Assisting specialist music educators, choir leaders and singing coaches in guiding students, choristers, and singers through all the demands of SingEd.
- A standardised breathwork approach: Enhancing communication between and among choir masters/choristers, singing lecturers/students, music educators/students with a common breathwork language.
- A skill for life: Basic knowledge about breathwork could give learners not just enhanced singing abilities but also some valuable skills to navigate their daily stressors.
- Further scientific enquiry: Each of the different aspects in this teaching and learning framework can stimulate further academic investigation. As Lalande et al. (2012)

remarked, "No standardized breathwork approach exists for research purposes" (p. 117).

- Interdisciplinary enrichment: How breathwork manifests in SingEd can enrich understanding and contribute to investigating breathwork concepts and practices in alternative breathwork modalities.

Conclusion

The United Nation's Sustainable Development Goal 3 (good health and well-being) and Sustainable Development Goal 4 (quality education for all) can be addressed effortlessly in South African schools through gaining an enriched breathwork consciousness. To enrich not only those privileged enough to afford individual singing lessons or to be selected to sing in a choir but also the broader school community engaged in the Life Skills programme, requires no expensive equipment or intensive training. Breathwork demands only becoming conscious of an everyday unconscious activity.

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